

TYPHOON DOT (05W)

Dot, the first of two significant tropical cyclones in June, formed in low latitudes south of the central Caroline islands, moved steadily west-northwestward and crossed the Philippine Islands. It reached typhoon intensity in the South China Sea and eventually dissipated over northern Vietnam.

After Cecil (04W) tracked across the South China Sea and into Vietnam the last week of May, the tropics were relatively quiet. Then light westerly surface winds appeared in the southern Philippine Sea and cloudiness increased. In this zone of maximum cloudiness on 2 June Dot, as a tropical disturbance, was

identified and noted in the Significant Tropical Weather Advisory as having fair potential for development. On 4 June the disturbance passed north of the island of Palau in the western Carolines and became better organized, which prompted a Tropical Cyclone Formation Alert at 041230Z. A further increase in convection and organization led to the first warning at 050000Z when the system was approximately 300 nm (555 km) southwest of the island of Samar in the Republic of the Philippines.

Tropical Depression 05W was upgraded to Tropical Storm Dot (Figure 3-05-1) at 051200Z, twelve hours before making

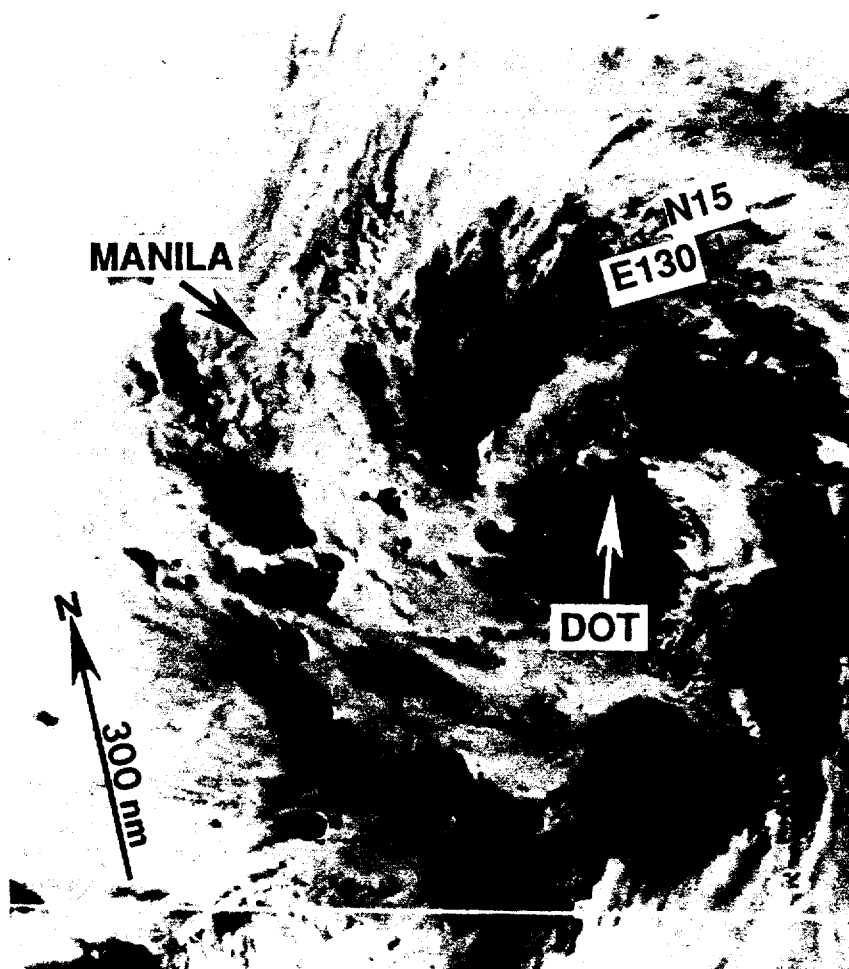


Figure 3-05-1. As Dot reaches tropical storm intensity, its central dense overcast and surrounding band of convection blanket a large portion of the Philippine Sea (051801Z June NOAA infrared imagery).

landfall on Samar. Dot accelerated slightly while crossing the central Philippine Islands which was in agreement with the results of Sikora's (1976) movement study. The open waters of the Sibuyan Sea and the relatively low relief of the adjacent islands allowed the circulation aloft to intensify slowly, but the rugged topography limited the surface effects. Clark Air Base's radar (WMO 98327) located the circulation center at 061835Z over south central Mindoro. As suspected from the previous satellite imagery, the analysis of surface pressure reports from land stations revealed the system's large size (Figure 3-05-2).

Upon entering the South China Sea, Dot initially took a more northward track. This increase in northward component, coupled with

the approaching frontal system and the guidance of most of JTWC's objective aids, led JTWC to forecast Dot's track to the east and north of Hainan Island (Figure 3-05-3). However, the tropical cyclone never linked up with the approaching frontal system and continued west-northwestward. Weak vertical wind shear and the warm waters of the South China Sea allowed Dot to reach typhoon intensity. Peaking at an intensity of 100 kt (51 m/sec) on 9 June (Figure 3-05-4), the typhoon then weakened as it approached and crossed southern Hainan Island. Dot crossed the Gulf of Tonkin as a tropical storm and made landfall near Haiphong, Vietnam at 110600Z. It dissipated six hours later in the mountains northwest of Hanoi.

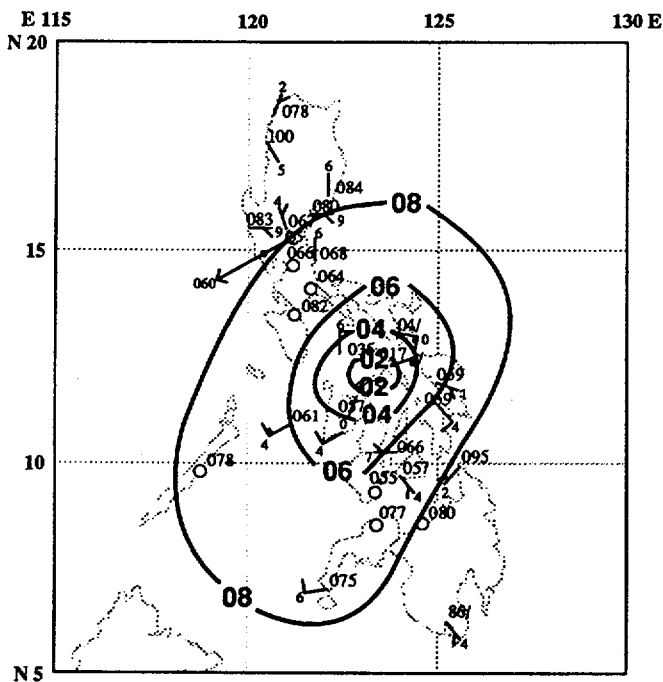


Figure 3-05-2. Based on the surface wind and pressure plots for 061200Z, the isobaric analysis shows the large size of the circulation.

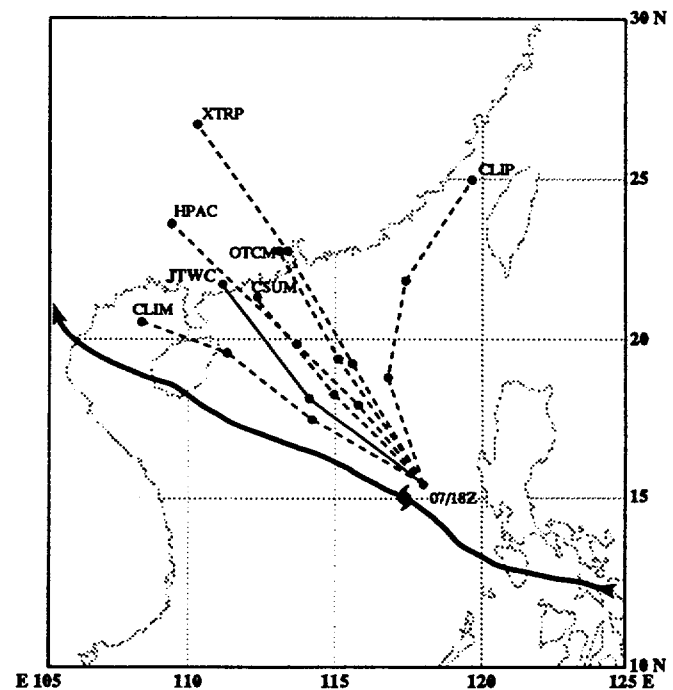


Figure 3-05-3. Objective guidance and the forecast from 071800Z through 24, 48 and 72 hours. Note: the displacement of the 071800Z starting point to the north of the best track. This is the result of adjustment to the best track caused by later data.

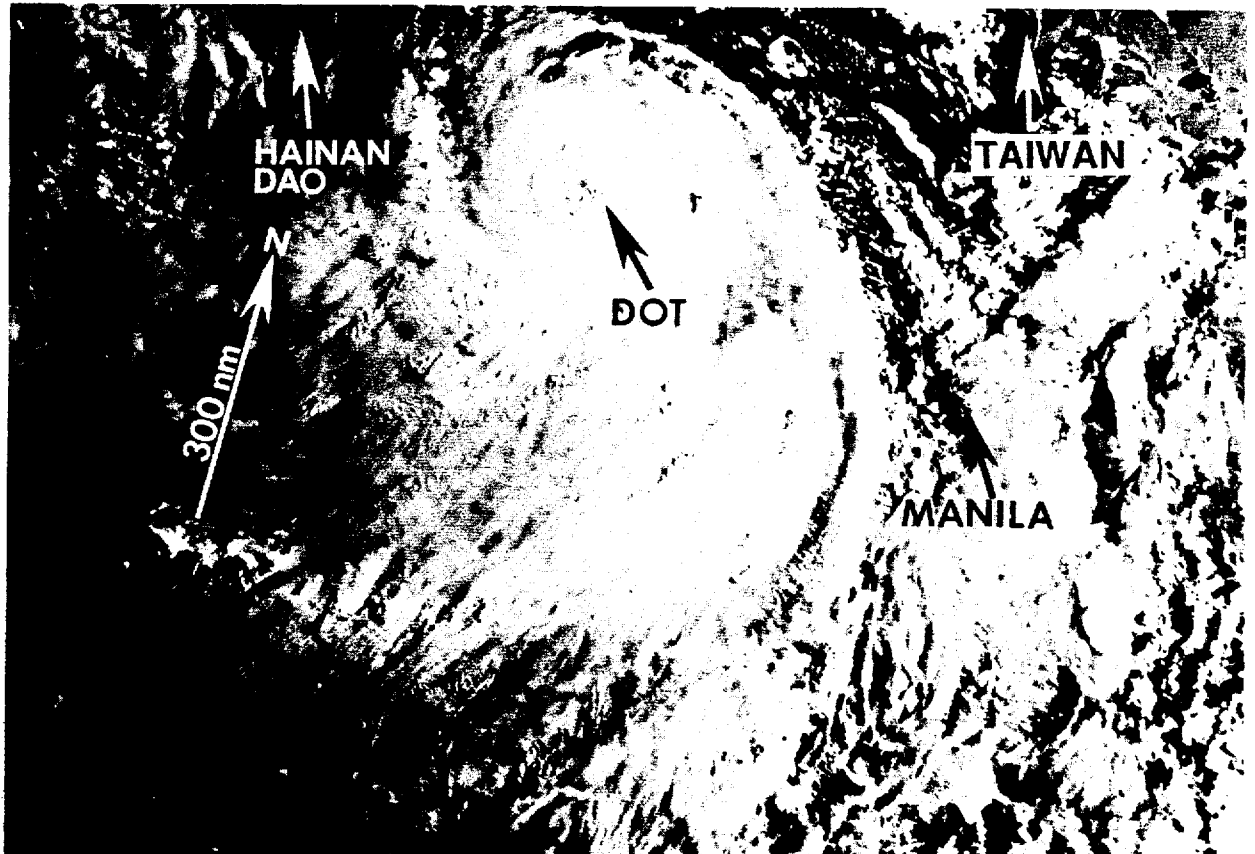


Figure 3-05-4. Nearing peak intensity, Typhoon Dot tracks towards Hainan Island (082225Z June DMSP visual imagery).